

# PATENT SPECIFICATION



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278,244

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## PROVISIONAL SPECIFICATION.

### Improvements in Door or like Engaging and Holding Appliances.

I, WILLIAM GRIFFITHS JACKSON, of Chapel Chambers South, 28, Chapel Street, Liverpool, in the County of Lancaster, a British subject, do hereby declare the nature of this invention to be as follows:—

This invention has reference to fittings or appliances for use in connection with doors or the like for securing them when open—or closed, and it constitutes an engaging and holding device or fitting comprising two parts, one to be attached to the door or the like, and the other to be fixed on the stationary surface or part, in relation to which the door or the like is moved on its hinges when being closed or opened.

It is wellknown, that the doors of ships' rooms or cabins, bath rooms, lavatories, etcetera, are frequently the cause of much noise by the swinging to and fro, due to the movement of the ship in rough weather, and is the cause of general annoyance, and the invention has mainly for its object and effect to provide appliances or fittings of the kind referred to by which this annoyance or nuisance is obviated, and at the same time to provide a door engaging and holding device or fitting which is automatic in its engaging action, effective and durable, and also simple and sure in its action.

The invention for convenience will be described as applied to doors, and to automatically catching or engaging them, and holding them firmly, so that when once caught when swinging about on its hinges, it cannot of itself, or by mere pulling of the door, become disengaged.

As stated, the appliance or fitting according to this invention comprises two parts, one adapted to be secured to a stationary surface, and the other to a

movable part, namely, a door; and one of these parts, in most cases that which is attached to the stationary surface, is provided with a spring buffer, and a hinged engaging hook; whilst the other part attached to the door, is provided with an eye or staple, which is so constructed and adapted that it will, when moved on to the other part strike and lift the hook, and so that when it reaches a certain position, its active edge or part passes the hook end, and the hook is moved down into the space or eye of the staple, and so is engaged by the hook. To ensure a quick and effective engagement, the hook is provided with a spring of coiled or other form, say at or near its hinge, which normally presses the hook down about its hinge. Therefore, when the leading edge or part of the staple of the other part is past the hook edge, the hook is positively pressed down and thereby instantly catches the staple, and it can only be disengaged by disengaging it by hand.

The spring buffer above specified is provided in connection with the hook fitting; and in the hook engaging action, it will be struck and pressed upon by the door, and will be pressed inwards against the counter pressure of the spring, and so compresses it, thus checking the door; and then, after the hook has engaged or caught the staple of the door, as described, the reaction of the buffer spring presses the buffer onto the door, and so moves it, and brings the inside surface of the staple on to the inside of the hook, and the action is complete. The pressure thus exerted on the door by the spring buffer continues, and the two engaging parts are kept in contact together, so that no looseness can exist or rattling take place; and this action and condition will continue even

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after long use of the fitting, which thus accomplishes its purpose, and remains efficient for a great length of time.

In one and an advantageous form, the hook part will have a base plate by which it is fastened to the surface, and it is hinged to a jaw or the like on the upper part of the buffer cylinder, in which the buffer and spring are disposed and work; and the engaging end of the hook, may be in the form of an inverted U, and its tip, when it is not holding the door staple or fitting, may rest or lie closely above the upper surface and near the end of the buffer cylinder. The cylinder may be cored out from the back end of the fitting, and have an inwardly extending flange at its outer end; while the buffer may consist of a short ram or like device, having on its inner end, a flange which normally will lie against the flange of the cylinder end, and is pressed towards this position by the spiral spring within the cylinder. The buffer and spring may be introduced through a hole in the back of the fastening plate of the device, which after inserting them, may be closed by a suitable screw plug, which will form a support for and hold the back end of the spring.

The other fitting or device which, as stated, is preferably attached to the door, may consist of an attaching disc or plate, having upon it a horizontal metal staple, the end member or part of which stands some distance away from the plate, thus forming a space within its members, in to which the hook end is pressed by its spring or drops when the engaging action takes place.

The outer face of the end bar or mem-

ber of the staple is inclined backwards, either in a straight or curved incline from the lower part of same to the upper part, thus presenting a backwardly inclined or curved plane to the edge of the hook end, which is inclined or curved in a corresponding manner, so that when in action the staple comes in contact with the nose of the hook, by the inclined or curved formation of the parts, the hook is automatically lifted, and by the continued movement inward of the door the outer member of the staple passes beyond the nose of the hook, which thus instantly falls away to the pressure exerted on it by its spring and gravity. The inside of the U end of the hook may be straight, i.e. vertical, so that when it engages the staple, mere pulling the door will not move the hook; and as stated, the spring buffer keeps the inside surfaces of the hook nose and the staple firmly held together in contact, so that no looseness can exist or rattling take place.

It will be plain, that according to requirements and circumstances, the part having the spring buffer and hook may be on the stationary surface or part, instead of upon the door, and the staple part on the stationary surface; and the form and shape of these two parts or fittings may be varied or modified to suit different circumstances or requirements or special cases.

Dated this 23rd day of February, 1927.

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## COMPLETE SPECIFICATION.

### Improvements in Door or like Engaging and Holding Appliances.

I, WILLIAM GRIFFITHS JACKSON, of Chapel Chambers South, 28, Chapel Street, Liverpool, in the County of Lancaster, a British subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention has reference to fittings or appliances for use in connection with doors or the like for securing them when open—or closed, and it constitutes an engaging and holding device or fitting comprising two parts, one to be attached to the door or the like, and the other to be fixed on the stationary surface or

part, in relation to which the door or the like is moved on its hinges when being closed or opened; and it relates more particularly to the kind of such appliances where a hook is pivoted on the top of a cylindrical body below it, and a buffer is provided on the outer end of the cylinder, and acts in connection with a device on a door or other surface with which the hook operates and engages when the door or the like is opened.

It is wellknown, that the doors of ships' rooms or cabins, bath rooms, lavatories, etcetera, are frequently the cause of much noise by the swinging to and fro, due to the movement of the ship in rough weather; and is the cause of

general annoyance, and the invention has mainly for its object and effect to provide appliances or fittings of the kind referred to by which this annoyance or nuisance is obviated, and at the same time to provide a door engaging and holding device or fitting which is automatic in its engaging action, effective and durable, and also simple and sure in its action.

The invention for convenience will be described as applied to doors, and to automatically catching or engaging them, and holding them firmly, so that when once caught when swinging about on its hinges, it cannot of itself, or by mere pulling of the door, become disengaged.

In the appliance or fitting according to this invention, one of the two parts of which the appliance is comprised, viz., the hollow part on which the hook is pivoted, is provided internally with a metal spring which presses on the inner end of the buffer, which is movable in the outer end of the hollow part, and which is pressed upon by the spring.

To ensure a quick and effective engagement, the hook is provided with a spring of coiled or other form, say at or near its hinge, which normally presses the hook down about its hinge, and its point onto or towards the upper part of the hollow part. Therefore, when the leading edge or part of the staple of the other part is past the hook edge, the hook is positively pressed down and thereby instantly catches the staple, and it can only be disengaged by disengaging it by hand.

The spring buffer above specified is provided in connection with the hook fitting; and in the hook engaging action, it will be struck and pressed upon the door, and will be pressed inwards against the counter pressure of the spring, and so compresses it, thus checking the door; and then, after the hook has engaged or caught the staple of the door, as described, the reaction of the buffer spring presses the buffer outwards onto the door, and so moves it, and brings the inside surface of the staple on to the inside of the hook, and the action is complete. The pressure thus exerted on the door by the spring buffer continues, and the two engaging parts are kept in contact together, so that no looseness can exist or rattling take place; and this action and condition will continue even after long use of the fitting, which thus accomplishes its purpose, and remains efficient for a great length of time.

The outer face of the end bar or member of the staple is inclined backwards,

either in a straight or curved incline from the lower part of same to the upper part, thus presenting a backwardly inclined or curved plane to the edge of the hook end, which is inclined or curved in a corresponding manner, so that when in action the staple comes in contact with the nose of the hook, by the inclined or curved formation of the parts, the hook is automatically lifted, and by the continued movement inward of the hook, which thus instantly falls away to the pressure exerted on it by its spring and gravity.

It will be plain, that according to requirements and circumstances, the part having the spring buffer and hook may be on the stationary surface or part, instead of upon the door, and the staple part on the stationary surface; and the form and shape of these two parts or fittings may be varied or modified to suit different circumstances or requirements or special cases.

The invention, the nature of which is above described, is illustrated in the annexed drawings, and will be further described with reference to them.

In the drawing, Figure 1 is a sectional elevation, showing the appliance with the parts disengaged; and Figure 2 is an outside elevation showing the two parts engaged.

Referring to the drawings, the buffer and hook part or appliance is generally designated 1, and the staple part is marked 2. The part 1 will in most cases be attached to a bulk head or a stationary surface, whilst the staple part 2 will be secured to the door.

The hook part 1 comprises a cylinder 3 with an opening 4 in its outer end, and having round the opening an inwardly extended flange 5; whilst the other end of the cylinder is provided with a flange 6, by which the device is secured to the surface to which it is to be attached.

Within the cylinder 3 is a flanged buffer plug 7, the flange of which will normally rest on the inside of the flange 5; whilst the operative end of the plug projects beyond the cylinder end. Within the cylinder 3 is a spiral spring 8, which rests normally on the inner end of the buffer plug 7, and upon a disc 9, which is threaded on its edge and screws into a correspondingly threaded part at the back end of the cylinder; the disc having a hole 10 in it, by which it can be screwed up or unscrewed as desired.

On the top of the cylinder 3 is a jaw 11, in which is pivoted by a pin 12, the hook 13, which is normally pressed about its pivot 12 by a spring 14, so that its nose lies in contact with or near the

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surface of the cylinder, the spring being disposed within the jaw between the surface of the cylinder, and a short arm 15 of the hook disposed on the side of the pivot which is opposite the hook.

The nose of the hook is curved or inclined inwards from a point some distance below the cylinder to its tip as shown.

The staple device 2 consists simply of a staple 18 on a carrier disc or plate 17, which will be suitably secured to the outside of the door; and the disc is so disposed in relation to the cylinder and hook device, that the buffer block 7 will operate on that part of its surface which is below the staple, which, as shown, is so disposed in relation to the device 1, that its under surface will stand in a plane just above the cylinder 1.

In operation, when a door swings of itself fully open, or is fully opened by hand, the inclined nose 18 of the staple 2 will act upon the backwardly inclined or curved point or part of the hook 13, and will press it up, and open it against the action of the spring 14; and the parts are so arranged that at the same time as this engaging action takes place, the surface of the disc 17 will act on and press back the buffer plug 7 against the resistance of the spring 8; and when the nose bar 18 of the staple has passed in between the cylinder 1 and the hook to the extent that the nose has passed the point of the hook, the spring 14 acting on the short arm 15 of the hook, will at once press the hook end through the eye of the staple on to the cylinder, and so the staple and door are rigidly held. At the same time the spring pressed buffer 7 will be still pressing on the plate 17, so that the parts are firmly held in complete contact, and no relative movement or rattling between the parts can take place.

To disengage the parts, the hook is pulled by hand away from the staple and 18, and so frees it and the door; and the buffer 7 being still pressed inwards and in contact with the plate, the spring 8 acting on it, at once pushes the buffer out, and so automatically pushes the staple device 2 and the door away and free from the part 1.

The inside of the end of the hook may be practically straight, that is vertical, so that when it engages the staple, mere pulling of the door will not move the hook; and as stated, the spring buffer keeps the inside surface of the hook nose, and the inside surface of the nose of the staple firmly in contact, so that no loose-

ness or play between the parts can exist or rattling take place.

I am aware it has been proposed in connection with apparatus of the kind concerned to use as a separate buffer device a rod on one part, such as a door, and on another stationary part a cylinder containing a spiral spring in it, and into which cylinder the rod enters and acts on the spring when the door is opened, and I make no claim to same.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An appliance for use in connection with doors and the like, for the purposes specified, comprising a case having a spring within it, and normally pressing a buffer carried on the end of the case, and a hook pivoted in the top of the case, and a staple or eye carried on another part, which is adapted when the parts are in the engaging action, to move the catch hook from its normal position, which subsequently by gravitation or a spring, engages the staple or eye device, and holds it.

2. An appliance for use in connection with doors and the like, for the purposes specified, comprising a spring pressed buffer device, the buffer device consisting of a cylinder or case containing within it a spring, and a movable buffer device carried by the case and pressed outwards by said spring, and a hook pivoted on the outside of the cylinder or case, the point of which normally in its closed or normal position, rests on or is near the outer surface of the cylinder or case.

3. An appliance for use in connection with doors and the like, of the kind or character specified in Claiming Clause 1, wherein the hook is held in its normal or closed position by a spring, so that after it has been actuated by the part which it is adapted to engage, its point is forced into the engaging eye or staple of the latter part.

4. Appliances or apparatus for holding doors or the like in their open position, substantially as described and set forth with reference to the drawings.

Dated this 15th day of June, 1927.

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FIG. 1.

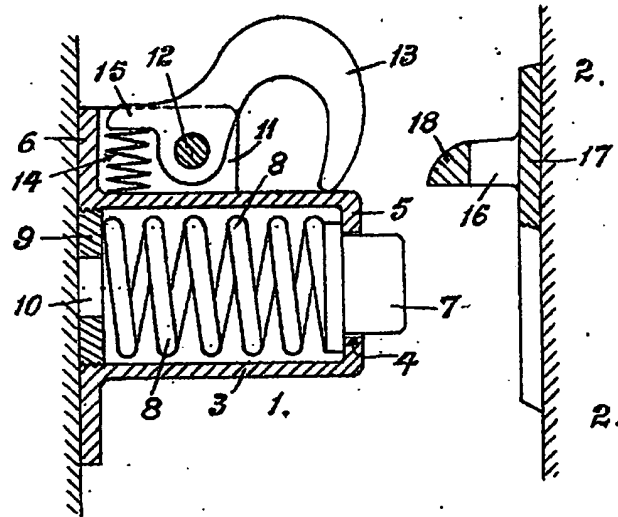
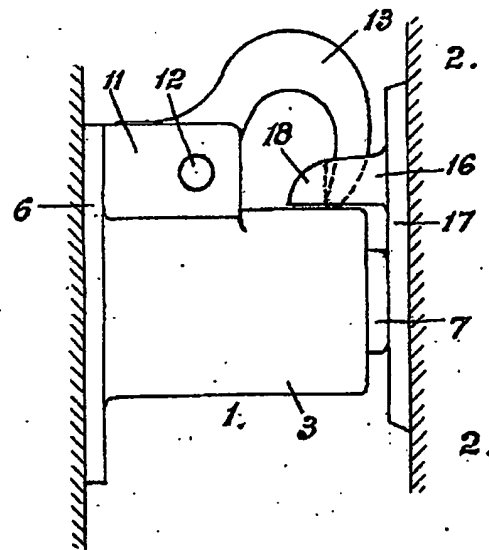


FIG. 2.



[This Drawing is a full-size reproduction of the Original.]